WHAT IS CLAIMED IS:

1. A disk recording apparatus for a rewritable optical disk, the disk recording apparatus comprising:

a first timing detector having a first timing synchronized with a wobble reproduction signal of the rewritable optical disk;

a second timing detector having a second timing synchronized with a track reproduction signal of the rewritable optical disk;

a phase difference detector configured to detect a phase difference between the first timing and the second timing; and

a controller configured to determine a recording area based on the detected phase difference.

2. A disk recording apparatus according to claim 1, wherein the controller is configured to control writing of data on the determined recording area of the optical disk.

3. A disk recording apparatus according to claim 1,

wherein the phase difference between the first timing and the second timing is yT, y is a positive number, and T is a channel bit which is a basic unit for a recording mark length on an optical disk;

wherein, if $|y| > |w|$ is established as a relationship between the detected phase difference yT and a preset permissible cycle error value wT of a sync signal detected in the track reproduction signal and w is a positive number, the controller is configured to control writing of data on a recording area using a preset reserved area or an empty area on the optical disk; and

wherein, if $|y| \leq |w|$ is established, the controller is configured to control writing of data to a target track on the optical disk.

4. A disk recording apparatus according to claim 1,

wherein the phase difference between the first timing and the second timing is yT, y is a positive number, and T is a channel bit which is a basic unit for a recording mark length on an optical disk;

wherein the controller is configured to employ the detected phase difference to calculate an amount n of error data relative to the track reproduction signal, n being a natural number;

wherein, if $n > m$ is established as a relationship between the amount n of error data and a preset permissible amount m of error data, m being a natural number, the controller is configured to control writing of data on a recording area using a preset reserved area or an empty area on the optical disk; and

wherein, if $n \leq m$ is established, the controller is configured to control writing of data to a target track on the optical disk.

5. A disk recording apparatus according to claim 1, wherein if the controller determines that the recording area for writing the data is a preset reserved area or an empty area on the optical disk, the controller is configured to control the writing of the data using the first timing synchronized with the wobble reproduction signal of the rewritable optical disk.

6. A disk recording apparatus according to claim 1,

wherein if the controller determines that the recording area for writing the data is a target track on the optical disk, the controller is configured to control a selector to select a recording timing based on the detected phase difference, and to record data on a recording track in accordance with the selected timing;

wherein the phase difference between the first timing and the second timing is yT, y is a positive number, and T is a channel bit which is a basic unit for a recording mark length on an optical disk;

wherein, if $|y| > |w|$ is established as a relationship between the detected phase difference yT and a preset permissible cycle error value wT of a sync signal detected in the track reproduction signal and w is a positive number, the controller is configured to select the second timing; and

wherein, if $|y| \leq |w|$ is established, the controller is configured to select the first timing.

7. A disk recording apparatus according to claim 1,

wherein if the controller determines that the recording area for writing the data is a target track on the optical disk, the controller is configured to control a selector to select a recording timing based on the detected phase difference, and to record data on a recording track in accordance with the selected timing;

wherein the phase difference between the first timing and the second timing is yT, y is a positive number, and T is a channel bit which is a basic unit for a recording mark length on an optical disk;

wherein the controller is configured to employ the detected phase difference to calculate an amount n of error data relative to the track reproduction signal, n being a natural number;

wherein, if $n > m$ is established as a relationship between the amount n of error data and a preset permissible amount m of error data, m being a natural number, the controller is configured to select the second timing; and

wherein, if $n \leq m$ is established, the controller is configured to select the first timing.

8. A disk recording apparatus for a rewritable optical disk, the disk recording apparatus comprising:

a first timing detector having a first timing synchronized with a wobble reproduction signal of the rewritable optical disk;

a second timing detector having a second timing synchronized with a track reproduction signal of the rewritable optical disk;

a phase difference detector configured to detect a phase difference between the first timing and the second timing;

a selector configured to select a timing between the first timing and the second timing; and

a controller configured to control the selector to select the timing based on the detected phase difference, and to record data on a recording track in accordance with the selected timing.

9. A disk recording apparatus according to claim 8,

wherein the phase difference between the first timing and the second timing is yT, y is a positive number, and T is a channel bit which is a basic unit for a recording mark length on an optical disk;

wherein, if $|y| > |w|$ is established as a relationship between the detected phase difference yT and a preset permissible cycle error value wT of a sync signal detected in the track reproduction signal and w is a positive number, the controller is configured to select the second timing; and

wherein, if $|y| \leq |w|$ is established, the controller is configured to select the first timing.

10. A disk recording apparatus according to claim 8,

wherein the phase difference between the first timing and the second timing is yT, y is a positive number, and T is a channel bit which is a basic unit for a recording mark length on an optical disk;

wherein the controller is configured to employ the detected phase difference to calculate an amount n of error data relative to the track reproduction signal, n being a natural number;

wherein, if $n > m$ is established as a relationship between the amount n of error data and a preset permissible amount m of error data, m being a natural number, the controller is configured to select the second timing; and

wherein, if $n \leq m$ is established, the controller is configured to select the first timing.

11. A disk recording method for a rewritable optical disk, the method comprising:

detecting a phase difference between a first timing synchronized with a wobble reproduction signal of the rewritable optical disk and a second timing synchronized with a track reproduction signal of the rewritable optical disk; and

determining a recording area for target data to be written based on the detected phase difference.

12. A disk recording method according to claim 11, further comprising controlling the determined recording area to write the target data therein.

13. A disk recording method according to claim 11,

wherein the phase difference between the first timing and the second timing is yT, y is a positive number, and T is a channel bit which is a basic unit for a recording mark length on an optical disk;

wherein, if $|y| > |w|$ is established as a relationship between the detected phase difference yT and a preset permissible cycle error value wT of a sync signal detected in the track reproduction signal and w is a positive number, the target data is written on a recording area using a preset reserved area or an empty area on the optical disk; and

wherein, if $|y| \leq |w|$ is established, the target data is written to a target track on the optical disk.

14. A disk recording method according to claim 11,

wherein the phase difference between the first timing and the second timing is yT, y is a positive number, and T is a channel bit which is a basic unit for a recording mark length on an optical disk;

further comprising employing the detected phase difference to calculate an amount n of error data relative to the track reproduction signal, n being a natural number;

wherein, if $n > m$ is established as a relationship between the amount n of error data and a preset permissible amount m of error data, m being a natural number, the target data is written on a recording area using a preset reserved area or an empty area on the optical disk; and

wherein, if $n \leq m$ is established, the target data is written on a target track on the optical disk.

15. A disk recording method according to claim 11, wherein if the recording area for the target data to be written is determined to be a preset reserved area or an empty area on the optical disk, controlling the writing of the target data using the first timing synchronized with the wobble reproduction signal of the rewritable optical disk.

16. A disk recording method according to claim 11, further comprising, if the recording area for the target data to be written is determined to be a target track on the optical disk, selecting a recording timing between the first timing and the second timing based on the detected phase difference;

wherein the phase difference between the first timing and the second timing is yT, y is a positive number, and T is a channel bit which is a basic unit for a recording mark length on an optical disk;

wherein, if $|y| > |w|$ is established as a relationship between the detected phase difference yT and a preset permissible cycle error value wT of a sync signal detected in the track reproduction signal and w is a positive number, the second timing is selected as the recording timing; and

wherein, if $|y| \leq |w|$ is established, the first timing is selected as the recording timing.

17. A disk recording method according to claim 11, further comprising, if the recording area for the target data to be written is determined to be a target track on the optical disk, selecting a recording timing between the first timing and the second timing based on the detected phase difference;

wherein the phase difference between the first timing and the second timing is yT, y is a positive number, and T is a channel bit which is a basic unit for a recording mark length on an optical disk;

further comprising employing the detected phase difference to calculate an amount n of error data relative to the track reproduction signal, n being a natural number;

wherein, if $n > m$ is established as a relationship between the amount n of error data and a preset permissible amount m of error data, m being a natural number, the second timing is selected as the recording timing; and

wherein, if $n \leq m$ is established, the first timing is selected as the recording timing.

18. A disk recording method for a rewritable optical disk, the method comprising:

detecting a phase difference between a first timing synchronized with a wobble reproduction signal of the rewritable optical disk and a second timing synchronized with a track reproduction signal of the rewritable optical disk;

selecting a recording timing between the first timing and the second timing based on the detected phase difference; and

recording data to the rewritable optical disk in accordance with the selected recording timing.

19. A disk recording method according to claim 18,

wherein the phase difference between the first timing and the second timing is yT, y is a positive number, and T is a channel bit which is a basic unit for a recording mark length on an optical disk;

wherein, if $|y| > |w|$ is established as a relationship between the detected phase difference yT and a preset permissible cycle error value wT of a sync signal detected in the track reproduction signal and w is a positive number, the second timing is selected as the recording timing; and

wherein, if $|y| \leq |w|$ is established, the first timing is selected as the recording timing.

20. A disk recording method according to claim 18,

wherein the phase difference between the first timing and the second timing is yT, y is a positive number, and T is a channel bit which is a basic unit for a recording mark length on an optical disk;

further comprising employing the detected phase difference to calculate an amount n of error data relative to the track reproduction signal, n being a natural number;

wherein, if $n > m$ is established as a relationship between the amount n of error data and a preset permissible amount m of error data, m being a natural number, the second timing is selected as the recording timing; and

wherein, if $n \leq m$ is established, the first timing is selected as the recording timing.